

What is claimed is:

1. A method of lowering the melting temperature of a glass composition including CaO and MgO while substantially maintaining the bending and annealing temperatures, comprising the steps of:

increasing the CaO by a selected weight percent; and decreasing the MgO by substantially the same weight percent.

2. The method according to claim 1, including increasing the CaO to greater than 9 weight percent.

3. The method according to claim 1, including increasing the CaO to 9.1 to 12 weight percent.

4. The method according to claim 1, including increasing the CaO to greater than or equal to 10 weight percent.

5. The method according to claim 1, including decreasing the MgO to less than 3 weight percent.

6. The method according to claim 1, including maintaining a total amount of CaO + MgO greater than 12 weight percent.

7. The method according to claim 1, including maintaining a total amount of CaO + MgO greater than 12.5 weight percent.

8. The method according to claim 1, including maintaining a total amount of CaO + MgO in the range of 12.5 to 13 weight percent.

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9. The method according to claim 1, including increasing the CaO to provide a melting temperature in the range of about 2500°F to about 2590°F (1370°C to 1421°C), a bending temperature in the range of about 1300°F to 1400°F (704°C to 759°C), and an annealing temperature in the range of about 1010°F to 1050°F (543°C to 565°C).

10. A method of adjusting a glass composition to lower the melting and forming temperatures while substantially maintaining the bending and annealing temperatures, comprising the steps of:

providing a glass composition having CaO and MgO;  
increasing the CaO a selected amount; and  
decreasing the MgO by substantially the same selected amount while substantially maintaining a total amount of CaO + MgO.

11. A method of lowering the melting and forming temperatures of a glass composition while substantially maintaining the softening and annealing temperatures of the glass, comprising:

replacing at least a portion of at least one of CaO or MgO in the composition with a metal oxide whose metal has a lower field strength than at least one of Ca<sup>++</sup> or Mg<sup>++</sup>.

12. The method according to claim 11, including replacing at least a portion of at least one of the CaO or MgO with at least one metal oxide whose metal is selected from Ba or Sr.

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13. A glass composition, comprising:

SiO <sub>2</sub>	70 to 75 weight percent
Na <sub>2</sub> O	12 to 15 weight percent
K <sub>2</sub> O	0 to 5 weight percent
CaO	> 9 weight percent
MgO	< 4 weight percent
Al <sub>2</sub> O <sub>3</sub>	0 to 2 weight percent
SO <sub>3</sub>	0 to 1 weight percent
Fe <sub>2</sub> O <sub>3</sub>	0 to 2 weight percent

wherein:

SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub>	≥ 70 weight percent
Na <sub>2</sub> O + K <sub>2</sub> O	10 to 15 weight percent
CaO + MgO	12 to 15 weight percent
CaO/MgO	2 to 5 (1)

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14. The composition according to claim 13, wherein CaO is in the range of greater than 9 to 12 weight percent.

15. The composition according to claim 13, wherein CaO is in the range of 9.1 to 11 weight percent.

16. The composition according to claim 13, wherein MgO is in the range of 2 to less than 4 weight percent.

17. The composition according to claim 13, wherein CaO + MgO is in the range of 12 to 13.5 weight percent.

18. The composition according to claim 13, wherein CaO + MgO is in the range of 12.5 to 13 weight percent.

19. The composition according to claim 13, wherein the glass composition has a log 2 viscosity in the range of about 2570°F to about 2590°F (1410°C to 1421°C) and a log 4

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viscosity in the range of about 1850°F to about 1894°F (1010°C to 1034°C).

20. The composition according to claim 13, wherein the glass composition has a log 7.6 viscosity in the range of about 1300°F to about 1350°F (704°C to 732°C) and a log 13 viscosity in the range of about 1016°F to about 1020°F (547°C to 549°C).

21. The composition according to claim 19, wherein the glass composition has a log 7.6 viscosity in the range of about 1300°F to about 1350°F (704°C to 732°C) and a log 13 viscosity in the range of about 1016°F to about 1020°F (547°C to 549°C).

22. A flat glass product made by the process of claim 1.

Sub  
a1  
out

Sub  
a2

Add  
a3

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